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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/576,252

04/14/2006

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Q94479

3629

23373 7590 01/09/2009  
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EXAMINER

SHEDRICK, CHARLES TERRELL

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

01/09/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/576,252	<b>Applicant(s)</b> LEE, JINSOCK	
	<b>Examiner</b> CHARLES SHEDRICK	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 and 28 is/are rejected.
- 7) ☒ Claim(s) 25-27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments, see page 9, filed 9/29/08, with respect to claims 16-18 have been fully considered and are persuasive.
2. Applicant's arguments, with respect to claims 1-15 filed 9/29/08 have been fully considered but they are not persuasive.

#### A. Claims 1, 8 and 13

Applicant argues Gruhl simply does not disclose preparing combinations of capacities concerned with combinations of the data flows by the mobile station, as recited in claim 1.

However, the Examiner respectfully disagree. Based on the manner in which the claims are written Gruhl would still read on the claimed limitation. Nothing in the claim language overcomes Gruhl's teaching of "flows" (plural). It appears that the Applicant is pointing out individual flows to distinguish and overcome the art, however, individual flows would still read on the claimed limitation since Gruhl teaches multiple "individual flows" in addition to the teaching of "flows" which explicitly indicates a multiplicity or plurality of data/voice/video flow. Furthermore, the Applicant appears to use a piecemeal analysis of paragraph 0047 by reciting that " *Gruhl, however, discloses that all data flows are handled separately (see above, discloses assigning a guaranteed minimum bandwidth to individual flows and controlling the admission of new flows to the system and paragraph 47)*"

The Examiner respectfully points out that Paragraph 0047 in its entirety reads *All QoS transmissions have to be embedded into a data flow. A data flow is a sequence of data packets from the same source to the same destination in the network, for which the user has certain QoS*

Art Unit: 2617

*requirements. Each radio bearer is related to a single data flow. **Because multiple radio bearers might be established for a single user, multiple data flows could exist simultaneously that are related to a single user, too.** In the following all data flows are handled separately....*

In response to the Applicant's argument that nothing in paragraph 45 of Gruhl discloses or fairly suggests modifying the combinations of the capacities into modified combinations of capacities by the mobile station, as recited in claim 1. Furthermore, paragraph 45 of Gruhl fails to describe any relationship to a new flow that may be accepted into the cell, combinations of data flows, or modifying the combinations of the capacities.

The Examiner respectfully request that the Applicant consider the cited portions of the office action as read in the context of the prior art reference as a whole in which the rejection based on the 102(b) is applied. At least paragraphs 0060-0067 elaborate on the QoS mentioned in paragraph 0045 and how QoS is handled based on the requested service and the availability of resources. Gruhl teaches that in order to maintain a certain level of service, adjustments (modifications) can be made in relation to the resources and services.

Claims 8 and 13 include analogous, though not necessarily coextensive features recited in claim 1, and therefore, claims 8 and 13 are not patentable for the reasons discussed for claim 1.

#### **B. Claims 2 and 9**

Applicant argues that Gruhl fails to disclose dividing data flows with reference to the priority and QoS into a plurality of groups by a mobile station during an assignment of an uplink capacity.

Art Unit: 2617

However, the Examiner respectfully disagree since the claim language is not sufficiently narrow enough to overcome what one of ordinary skill in the art would consider as a plurality of groups or at least as interpreted by the Examiner. Furthermore, one of ordinary skill in the art would appreciate that the very basis of quality of service in the present context is to allocate resources to high priority (e.g., group x) and perhaps less resources to less important traffic that can tolerate delay (e.g., group y). As noted by the Applicant "generally it is well known in the art that a voice service is a different type of service than email", which reads on a plurality of groups also.

The Applicant argues that Gruhl cannot be combined into groups such that the plurality of groups are individually pointed to by sub pointers, according to claim 2. Firstly, Gruhl makes no mention of sub pointers. Secondly, Gruhl discloses that a scheduler 80 serves each flow queue depending on the flow's QoS requirements (paragraphs 67 and 68). Thus, the queue of a flow having a more strict QoS requirement will be served before the queue of a flow having a less strict QoS requirement. Therefore, even assuming arguendo that the scheduler 80 operates with a pointer, Gruhl at best discloses that a single pointer is used for the flow queue being served. That is because only one flow is served or handled at a time, and data flows are not handled in a group according to the present invention. Gruhl fails to disclose or fairly suggest utilizing more than one pointer, and more particularly, a plurality of sub pointers.

However, The Examiner respectfully disagree since nothing in the written description strictly describes "pointers" in a manner that would overcome the prior art or the ordinary plain meaning. In a manner of distinguishing various services, traffic types, flows, QoS etc., pointers and sub-pointers would inherently exist in order for the network entities and controllers to make

Art Unit: 2617

the distinction between traffic types.

Claim 9 includes analogous, though not necessarily coextensive features recited in claim 2, and therefore, claim 9 is not patentable for the reasons discussed for claim 2.

**C. Claims 3 and 10**

Applicants submit that claim 3 is patentable for reasons similar to those presented above in conjunction with claim 2. Therefore, claims 3 and 9-10 are not patentable for at least these reasons.

**D. Claims 4 and 11**

Claim 4 recites transmitting the representatives of the sub pointers by arranging them within a capacity request frame. Again, Gruhl fails to disclose sub pointers, and more particular, transmitting the representative of sub pointers by arranging them within a capacity request frame. The Examiner asserts that paragraph 48 of Gruhl discloses the above features of claims 4 and 11. A connection request, according to Gruhl, merely contains **information about** the new data flow so that the CAC 70 can determine whether to accept or reject the new flow into the cell (paragraphs 48, 63, 64 and 67). A connection request is not a pointer, or a transmission of the representative of a sub pointer. Furthermore, Gruhl fails to disclose a capacity request frame or arranging representatives of the sub pointers within a capacity request frame. Therefore, claims 4 and 11 are patentable for at least these reasons.

However, The Examiner respectfully disagree. As noted above, the information contained within the frame points to information and therefore would still read on pointers and sub-pointers

**E. Claims 5 and 6**

Claims 5 and 6 are not patentable for at least the reasons discussed above in conjunction with

Art Unit: 2617

claim 4.

**F. Claims 7 and 12**

Claims 7 and 12 are not patentable at least by virtue of their dependencies.

**G. Claim 14**

Claim 14 recites that "the capacity request message frame includes two different choices of frames." The Examiner asserts that paragraph 51 of Gruhl discloses the above features.

Paragraph 51 of Gruhl merely describes two descriptors or requirements specified by a data flow such that the data flow can be transmitted to those specifications. Paragraph 51 of Gruhl does not relate to a capacity request message frame, or two different choice of frames therein. Gruhl merely teaches that a flow is served based on its flow queue (paragraph 68). Gruhl fails to mention anything about a capacity request message frame. Therefore, claim 14 is patentable for at least these reasons.

However, the Examiner, respectfully disagree. Paragraph 0051 recites According to the present invention, two novel service descriptors are required, both of which **permit the description by a user of a requested service** in terms suited to the characteristics of a wireless interface. Paragraph 0052-0054 further describes that the first descriptor is a Seamless Service Descriptor (SSD) by which **a user specifies** the level of service which the user requires during a handover from one telecommunications cell to another. For simplicity this may be exemplified by integer granularity on a scale of 1 to 5; an SSD value of 5 means the highest quality of seamless service, such as that required for video handover; for video a service of quality 4 may be tolerable but an SSD value of 3 or less would render a video service unwatchable. For a voice service, an SSD value of 3 will probably be acceptable, because the human brain is capable of

Art Unit: 2617

interpolation to smooth out errors of transmission. For a service such as file transfer, when real time transfer is not essential, an SSD of 1 would be acceptable. The above description would read on such a broad limitation which recites a capacity request message...two different choices.

#### H. Claim 15

claim 15 is not patentable at least by virtue of its dependencies on claims 13 and 14.

### DETAILED ACTION

#### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims **1-24 and 28** are rejected under 35 U.S.C. 102(b) as being anticipated by Gruhl et al. US Patent Pub. No.: 2002/0004379 A1, “Gruhl”

Consider **claims 1, 8, and 13**, Gruhl teaches a system, method and means for efficient uplink signaling to support closed loop capacity scheduling between a base station and a mobile station both of which carry out a plurality of data flows different in priority and QoS from one another (**e.g., see paragraph 0006**), the mobile station assigning an uplink capacity for the data flows in accordance with the steps of: preparing combinations of capacities concerned with combinations of the data flows(**e.g., preparing bandwidth or QoS requirements**)(**see at least paragraph 0006, 0046-0054**); modifying the combinations of the capacities into modified combinations of capacities(**e.g., dynamic or adaptive QoS**)(**e.g., see paragraph 0045**); and determining the uplink capacity on the basis of the modified combinations of capacities(**e.g., the**



Art Unit: 2617

**policer and other flags can interact and alter the offered load and determined also based on the user specify the amount of degradation which will be tolerated )(e.g., see 0045-0054 and 0057).**

Consider **claim 16**, Gruhl teaches A method of control signal transmission for supporting a closed-loop capacity scheduling method used in a system comprising a mobile station capable of transmitting a plurality of data flows to a base station(e.g., see **paragraph 0048 each connection request contains QoS requirements**), any one of a plurality of priority levels being assigned to each of the data flows(e.g., **services operate at different levels based on the QoS as noted in at least paragraph 0040**), wherein the mobile station transmits to the base station a provisional scheduling information which is given by dividing the data flows into groups on the basis of the priority levels of each of the data flows and by producing the provisional scheduling information based on a buffer accumulation amount of the data flows of each group(e.g., see **scheduling function in at least paragraph 0068 and 0074-0080**), the base station determines an assigned capacity for the data flow on the basis of the provisional scheduling information(e.g., see **scheduling function in at least paragraph 0068 and 0074-0080**), the base station notifies to the mobile station the assigned capacity and information designating the data flow, and the mobile station transmits the data flow on the basis of the received assigned capacity(e.g., see **scheduling function in at least paragraph 0068 and 0074-0080**).

Consider **claims 2 and 9 and as applied to claims 1 and 8**, Gruhl teaches wherein the modifying step comprises the steps of: dividing the data flows with reference to the priority and QoS into a plurality of groups(e.g., **voice, video, data or other varying traffic classes noted in table 1**); and individually pointing the plurality of groups by sub pointers to obtain the modified

Art Unit: 2617

combinations of capacities (**e.g., each data flow of multiple data flows can be handle separately**)(see at least paragraph 0047).

Consider **claims 3 and 10 and as applied to claims 2 and 9**, Gruhl teaches wherein the dividing step includes dividing the data flows into a first group of a high priority and a second group of a low priority (**e.g., level of service**)(paragraph 0052).

Consider **claims 4 and 11 and as applied to claims 3 and 10**, Gruhl teaches wherein the steps further comprises the step of: transmitting the representatives of the sub pointers by arranging them within a capacity request frame (**e.g., the connection request**)(see paragraph 0048).

Consider **claim 5 and as applied to claim 4**, Gruhl teaches wherein the transmitting step comprises the step of: periodically arranging the representatives of the sub pointers within the capacity request frame (**e.g., the flows are monitored by a policer**)(see paragraphs 0096-0097).

Consider **claim 6 and as applied to claim 5** Gruhl teaches wherein the transmitting step comprises the step of: a periodically arranging flow identifiers together with the representatives of the sub pointers within the capacity request frame (**e.g., the policer is part of the connection request**)(0paragraph 0063).

Consider **claims 7 and 12 and as applied to claims 2 and 9**, Gruhl teaches the claimed invention further comprising the step of changing values indicated by the sub pointers based on capacity assignment information of which the base station informs the mobile station(**e.g., adaptive as noted in at least col. 0045**).

Consider **claim 14 and as applied to claim 13**, Gruhl teaches wherein the capacity

Art Unit: 2617

request message frame includes two different choices of frames (**e.g., see paragraph 0051**).

Consider **claim 15**, Gruhl teaches in claim 13 or 14, the base station comprising: forming means, responsive to the capacity request message, for forming a capacity assignment message including capacity assignment of the data flows; and transmitting means for transmitting the capacity assignment message to the mobile station (**e.g., the QoS Mgmt structure can be located in the MT in BS or in Both**)(see paragraph 0066).

Consider **claim 17 and as applied to claim 16**, Gruhl teaches wherein, on determining the assigned capacity, the base station carries out the steps of: calculating a required capacity for each of the data flows from the provisional scheduling information (**e.g., the calculations are based on the required QoS as noted in at least paragraph 0072**), and determining, in case where a total of the required capacity exceeds a usable capacity, an allowable capacity smaller than the required capacity on the basis of the priority level(**e.g., a call can be degraded as noted in at least paragraphs 0050 0061 -0063**).

Consider **claim 18 and as applied to claim 16**, Gruhl teaches wherein the assigned capacity notified from the base station to the mobile station comprises flow identification information of each of the data flows and an allowable capacity usable for the data flow (**e.g., in conjunction with service descriptors as noted in at least paragraphs 0051-0054** ).

Consider **claim 19 and as applied to claim 3**, Gruhl teaches wherein the data flows having the high priority are grouped together into the first group and a first sub pointer is assigned to the first group and the data flows having the low priority are grouped together into the second group and a second sub pointer is assigned to the second group (**e.g., in conjunction with service descriptors as noted in at least paragraphs 0051-0054** ).

Consider **claim 20 and as applied to claim 19**, Gruhl teaches wherein the data flows are automatically grouped together according to a priority (**e.g., the Qos feature is dynamic and adaptive as noted in at least paragraph 0045**).

Consider **claim 21 and as applied to claim 19**, Gruhl teaches wherein a change of capacity of the first or second group does not interfere with a capacity of the other group(**e.g., the Qos feature is dynamic and adaptive as noted in at least paragraph 0045**).

Consider **claim 22 and as applied to claim 3**, Gruhl teaches wherein the dividing step includes grouping the data flows into a plurality of groups with reference to the priority and QoS of each data flow (**e.g., in conjunction with service descriptors as noted in at least paragraphs 0051-0054** )

Consider **claim 23 and as applied to claim 22**, Gruhl teaches wherein the dividing step further includes dividing the plurality of groups into subsets of combinations of capacities, each subset of combinations of capacities having a set-size assigned thereto(**e.g., the Qos feature is dynamic and adaptive as noted in at least paragraph 0045 and 0072-0075** ).

Consider **claim 24 and as applied to claim 23**, Gruhl teaches wherein each subset of combination of capacities has a sub pointer assigned thereto(**e.g., each level of granularity can be identified which reads on pointers and sub pointers see QoS descriptors in at least paragraph 0072-0075**).

Consider **claim 28 and as applied to claim 21**, Gruhl teaches wherein each of the combination of capacities includes an uplink capacity for multiple data flows and indicates a distribution of how a total capacity is divided into the multiple data flows (**e.g., based on available resources** )(see at least paragraph 0079).

Art Unit: 2617

*Allowable Subject Matter*

3. Claims **25-27** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHARLES SHEDRICK whose telephone number is (571)272-8621. The examiner can normally be reached on Monday thru Friday 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571)-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lester Kincaid/  
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